

a lateral magnification β in a direction corresponding to the auxiliary scanning of the optical scanner is as follows:

$$2 < \beta < 8.5.$$

IN THE ABSTRACT OF THE DISCLOSURE

After page 23, please insert the following:¹

-- ABSTRACT OF THE DISCLOSURE

A multi-beam optical scanner, in which a lateral magnification β in a composite system of an optical system between the light source for a multi-beam and the scanned surface satisfies the condition: $2 < \beta \leq 8.5$, and a plurality of light spots on the scanned surface execute optical scanning of the scanning lines adjacent to each other. --

REMARKS

Favorable reconsideration of this application, in view of the present amendment and in light of the following discussion, is respectfully requested.

Claims 1-7 and 10-15 are currently pending in this application. Claim 9 has been canceled without prejudice. Claims 1 and 13-15 have been amended herewith to recite "the plurality of light spots on the scanned surface optically scan lines adjacent to each other." This amendment has been made in order to more clearly identify the intended scope of protection. Claims 5 and 12 have also been amended herewith in order to overcome the objections to those claims. Claim 13 has been amended to correct an antecedent basis problem. An Abstract of the Disclosure has also been provided herewith. The changes and additions do not introduce any new matter.

¹An additional copy of the Abstract of the Disclosure has been submitted on a separate sheet of paper.

In the outstanding Office Action, the reissue declaration was objected to as being defective; claims 5 and 12 were objected to as containing informalities; claim 13 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite; claims 1-15 were rejected under 35 U.S.C. § 112, first paragraph, as not being supported by an adequate written description; claims 1-6 and 9-15 were rejected under 35 U.S.C. § 102(a) as being anticipated by Appel et al., U.S. Patent No. 5,550,668 (hereinafter "the '668 patent"); claims 1-6 and 9-15 also were rejected under 35 U.S.C. § 102(a) as being anticipated by Genovese, U.S. Patent No. 5,526,166 (hereinafter "the '166 patent"); and claim 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the '668 patent or the '166 patent in view of Kamikubo, U.S. Patent No. 5,861,978 (hereinafter "the '978 patent").

The courtesy of a personal interview extended to Applicants' representative on June 21, 2000 is respectfully acknowledged. During the interview, claim 1 was discussed with reference to the '668 patent; however, no agreement was reached, no exhibits were shown and no demonstrations were conducted. During the interview, the rejection under 35 U.S.C. § 112, first paragraph, was discussed with reference to whether the rejection was an enablement rejection or an adequate written description rejection. Since it is unclear which portion of 35 U.S.C. § 112, first paragraph, the rejection relies on, Applicants have addressed both adequate written description and enablement herein.

Prior to addressing the objections and rejections in the Office Action, it is respectfully noted that claim 8 was canceled as part of the originally filed reissue application, as shown on pages 16 and 17 of the reissue specification. If claim 8 is believed to be pending, it is respectfully requested that the examiner contact the undersigned so that claim 8 can be canceled by way of a supplemental or examiner's amendment.

In response to the objection to the reissue declaration, a new reissue declaration has been submitted herewith.

In response to the objection to claims 5 and 12, the claims have been amended herewith to overcome the objection, although not in the form suggested by the Office Action. It is respectfully submitted that these changes nonetheless overcome this ground for objection.

In response to the objection to the specification, an Abstract of the Disclosure has been added herewith. An additional copy of the Abstract has been provided on its own separate page.

In response to the rejection of claim 13 under 35 U.S.C. 112, second paragraph, it is respectfully submitted that the rejection is rendered moot by the amendment thereto. Specifically, the phrase "the light source" has been removed from claim 13.

In response to the rejection of claims 1-15 under 35 U.S.C. 112, first paragraph, that ground for rejection is respectfully traversed. The Office Action asserts that column 3, lines 13-15, and column 6, lines 16-26, "require[]" the multi-beam optical scanner to have a coupling lens ... in order to satisfy the condition."² It is respectfully submitted that neither section requires such a coupling lens. Those sections only describe how a magnification is measured, not what elements perform the magnification. In fact, column 3, lines 13-16, does not even use the word "lens." Those lines state:

A lateral magnification β in a direction corresponding to the auxiliary scanning in a composite system of the optical system between the light source for a multi-beam and the scanned surface satisfies the following expression:

$$2 < \beta \leq 8.5 \qquad \dots (1)$$

²Office Action, page 3, last paragraph. Emphasis added.

and a plurality of light spots optically scan scanning lines adjacent to each other.

Similarly, although column 6, lines 16-26, recites a coupling lens as one element of one embodiment of the composite system, the specification does not state that the coupling lens is required for all embodiments. Generally that section too discusses measuring magnification using distances that are independent of any distances except the distance between adjacent light emitting sections and a space of scanning lines by light spots. Moreover, the fourth full paragraph of column 12 expressly states that the specification is not to be interpreted as limiting the scope of the invention.

Accordingly, it is respectfully submitted that numerous figures in Applicants' specification illustrate that Applicants were in possession of the claimed invention at the time of filing. The Federal Circuit has held that "If ... the specification contains a description of the claimed invention, albeit not *in ipsius verbis* (in the identical words), then the examiner..., in order to meet the burden of proof, must provide reasons why one of ordinary skill in the art would not consider the description sufficient."³

Moreover, the Federal Circuit's predecessor, the CCPA, has also previously used a "new matter" test as an indication of whether or not a specification provides an adequate written description. See *In re Heinle*, 342 F.2d 1001, 1007, 145 USPQ 131, 136 (CCPA 1965). Since the elements recited in the claims are shown in the figures and do not require the addition of new matter, the claims are supported by an adequate written description in the originally filed specification.

³*In re Alton*, 37 USPQ2d 1578, 1583 (Fed. Cir. 1996) (quoting *In re Wertheim*, et al., 191 USPQ 90 (CCPA 1976)).

Since it appears that the outstanding rejection may have been intended to be an enablement rejection, Applicants submit herewith the declaration of Seizo Suzuki which declares that one of ordinary skill in the art would have been able to make and use the invention at the time of filing and which references a Japanese Laid-Open Publication No. 2-61608 which shows a light source without a coupling lens. Accordingly, it is believed that an enablement rejection would be improper.

In response to the rejection of Claims 1-6 and 9-15 under 35 U.S.C. § 102(a) as being anticipated by the '668 patent, that ground for rejection is respectfully traversed. Claims 1 and 13 have been amended to recite "the plurality of light spots on the scanned surface optically scan scanning lines adjacent to each other." Such a positively recited limitation is not anticipated by the interlaced scanner of the '668 patent.⁴ For ease of comparison, exemplary scanning lines of a non-interlaced system and an interlaced system are shown in Appendices A and B, respectively.

The differences in structure between the present invention and the '668 patent result in differences in complexity and image quality. An interlaced optical scanner is more complicated than the system of the present invention since the interlaced scanner requires a more irregular signal for modulating each light beam. In addition, images can be more easily degraded using the interlaced technique. This occurs because consecutive scanning lines have a relatively larger space therebetween, resulting in an increasing bend of scanning lines which increases a rate of pitch deviation. Accordingly, the present invention provides a less complicated design and an increased image clarity that is not taught by the '668 patent. Dependent claims 2-7 and 9-12 are patentably distinguishing over the '668 patent for at least

⁴Table 1 in column 5, lines 34-44, of the '668 patent discloses an interlace factor of 3.

the reasons set forth for the patentability of claim 1 from which they depend (either directly or indirectly).

In response to the rejection of claims 1-6 and 9-15 under 35 U.S.C. § 102(a) as being anticipated by the '166 patent, that ground for rejection is also traversed. As was discussed above, the subject matter of the present invention is directed to a non-interlaced scanner. However, the '166 patent explicitly states, in col. 4, line 35, that an interlace factor of 3 is used. Thus, the claims are not anticipated by the '166 patent for at least the reasons set forth above with respect to the '668 patent.

The pending claims are further patentably distinguishing based on the recitation of "a first image-formation system for ... forming the pair of light beams into images as a plurality of line images." Figure 2 of the '166 patent illustrates a field lens 72 including a weakly spherical front surface, a planar front surface or a weakly cylindrical front surface. As a result, the field lens does not "form[] the pair of light beams into images as a plurality of line images" which are applied to a reflection surface. Instead, the field lens 72 of the '166 patent forms images on a scan lens 80 as shown in Appendix C. In fact, col. 4, lines 64-67, explicitly states:

Placement of the field lens in such a fashion would render the beams all normal to the rotational axis of the facet without changing the beam wavefront characteristics or focal positions.

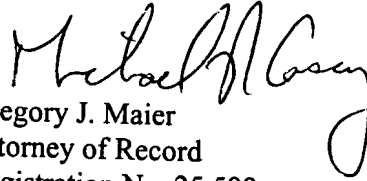
Thus, the structure of the pending claims is different than the structure of the '166 patent, and the pending claims are not anticipated by the '166 patent.

In response to the rejection of claim 7, it is respectfully submitted that claim 7 is patentably distinguishing over the cited prior art for at least the reasons set forth for the patentability of claim 1 from which it depends.

Consequently, the pending claims are believed to be patentably distinguishing over the prior art and in condition for allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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